



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/505,271	02/16/2000	Angus O. Dougherty	1759/USW0573PUS	6086

22193 7590 08/04/2006

QWEST COMMUNICATIONS INTERNATIONAL INC  
LAW DEPT INTELLECTUAL PROPERTY GROUP  
1801 CALIFORNIA STREET, SUITE 3800  
DENVER, CO 80202

EXAMINER

MEHRA, INDER P

ART UNIT	PAPER NUMBER
----------	--------------

2617

DATE MAILED: 08/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/505,271

Applicant(s)

DOUGHERTY ET AL.

Examiner

Inder P. Mehra

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 2/13/2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 and 43-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 44-46 is/are allowed.
- 6) ☒ Claim(s) 1-37, 43 and 47-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/21/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This office action is in response to amendment dated: 2/13/2006. Claims 1-37, and 43-55 are pending. Claims 38-42 were cancelled (refer to amendment dated: 2/3/05).

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-11, 14-15, 21 and 47-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang** (US Patent No. 5,898,904) in view of **Pester, III** (US Patent No. 5,475,732), hereinafter, Pester.

For claims 1, 21, and 47, Wang discloses "A communication system, refer to figs. 1-3, comprising:

- a plurality of subscriber units (wireless terminals, col. 5 lines 50-55), each subscriber unit sending and receiving information packets using a wireless communication link (1005), refer to col. 7 lines 25-45;
- a plurality of access points (col. 8 lines 12-16), each access point (1024) forming a coverage area for exchanging information packets (packet radio, abstract, packet, col. 6 lines 54-55) with subscriber units within the coverage area (col. 10 lines 53-58) through at least one wireless communication link, refer to col. 8 lines 9-25; and

Art Unit: 2617

- Back end communication, **as recited by claim 47**, (Back haul communication, refer to col. 6 lines 1-3);
- a plurality of distribution points (numerous base stations, col. 8 lines 12-16), each distribution point in communication with at least one access point (1024) and with at least one additional distribution point (second base station, col. 5 line 67 through col. 6 line 3), each distribution point operative to
  - (a) receive an information packet for distribution to a destination within the communication system ( packet radio, abstract, packet, col. 6 lines 54-55, forward, col. 9 lines 15-25 and col. 10 lines line 1 through line 5);
  - (c) forward the information packet to the access point defining the coverage area containing the subscriber unit (col. 10 lines 53-58) if the information packet destination is to a subscriber unit within the coverage area of the access point in communication with the distribution point (col. 10 lines 5-11, and lines 53-58, col. 10 lines 65 through col. 11 line 3), and
  - (d) forward the information packet to one of the additional distribution (base station can be added, col. 10 lines 56-58) points in communication with the distribution point if the information packet destination is not to a subscriber unit within the coverage area of the access point in communication with the distribution point, (refer to back bone (backhaul) interface 530, fig. 5, col. 5 line 67 through col. 6 line 10, col. 10 lines 60-65, and col. 14 lines 32-40).

Wang does not disclose explicitly the following limitations, which are disclosed by

Pester, as follows:

Art Unit: 2617

- (b) determine if the information packet destination is to a subscriber unit within the coverage area of an access point in communication with the distribution point (col. 5 lines 10-17),

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of determine if the information packet destination is to a subscriber unit within the coverage area of an access point in communication with the distribution point by Pester. This capability can be combined within the distribution point, as taught by Pester. The suggestion/motivation to do so would have been to provide convenience of access by users.

For claims 2-11, 14-15, and 48-51, Wang discloses all the limitations of the subject matter of these claims, as in claim 1 above, including the following limitations:

- wherein each information packet includes at least one of voice, video, and data information, **as recited in claim 2**, (wireless terminal sends data to, and receives data from, the cellularized base stations, abstract; used ID is data information, refer to col. 8 lines 40-50 and col. 9 lines 20-25).
- wherein an information packet comprises voice information, **as recited by claim 3**, (refer to telephone 101 in fig. 1, col. 1 lines 35-50).
- wherein an information packet comprises video information, **as recited by claim 4**, (display is on display screen, refer to col. 2 lines 5-10).

- wherein all information packet comprises data. **as recited by claim 5**, (wireless terminal sends data to, and receives data from, the cellularized base stations, abstract; used ID is data information, refer to col. 8 lines 40-50 and col. 9 lines 20-25).
- wherein an information packet comprises streaming audio. **as recited by claim 6**, (refer to telephone 101 in fig. 1, col. 1 lines 35-50).
- wherein an information packet comprises streaming video **as recited by claim 7**, display is on display screen, refer to col. 2 lines 5-10).
- wherein the communication link is a symmetric link **as recited by claim 8**, (refer to col. 14 lines 50-51).
- wherein the communication link is an asymmetric link. **as recited by claim 9**, (refer to col. 14 lines 51-57).
- wherein the distribution point is in wireless communication with at least one access point. **as recited by claims 10, and 48**, (refer to figs 1-5, refer to abstract and col. 1 lines 25-30, figs. 6A-6C).
- wherein the distribution point is in wire line communication with at least one access point **as recited by claims 11, and 49** (refer to col. 10 lines 36-40 and col. 11 lines 35-40).
- wherein at least one distribution point is in wireless communication with at least one additional distribution point **as recited by claims 14 and 50**, (refer to “numerous base stations, col. 8 lines 14-16, col. 14 lines 5-10, col. 14 lines 33-40, and col. 14 lines 58-62

Art Unit: 2617

- wherein the plurality of distribution points forms a wireless network of distribution points **as recited by claims 15 and 51**, refer to col. 10 lines 60-65, and col. 14 lines 32-40.

4. Claims 12-13, 16-20, 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang** in view of Pester, as above, further, in view of **Rai et al** (US Patent No. 6,577,643), hereinafter, Rai.

For claims 12 and 13, Wang in view of Pester, discloses all the limitations of the subject matter of these claims with the exception of the following limitations, which are disclosed by Rai, as follows::

- wherein at least one access point is packaged with the distribution point **as recited by claim 12**, (fig. 4, refer to col. 10 lines 36-40 and col. 11 lines 35-40).
- wherein at least one access point is not collocated with the distribution point **as recited by claim 13**, (refer to fig. 5, col. 10 lines 55-60).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of having access point collocated or not with distribution point, as taught by Rai. This capability can be combined within the distribution point, as taught by Rai. The suggestion/motivation to do so would have been to provide convenience of access by users.

For claim 16, Wang in view of Pester discloses all the limitations of the subject matter of these claims including the limitation

Art Unit: 2617

\* “the distribution point further operative to receive an information packet for distribution within the second communication system and to send the information packet to the second communication system interface device, (back bone interface 530 in fig. 5 and network control center 309 in fig. 3, refer to col. 8 lines 11-20 and col. 12 lines 15-20) with the exception of the following limitations, which are disclosed by Rai, as follows:

- a communication system interface device ((backbone interface 530 in fig. 5) operative to format information contained in the information packet to pass through a second communication system, (refer to col. 11 lines 10-15),

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of formatting information contained in the information packet to pass through a second communication, as taught by Rai. This capability can be combined within the distribution point, as taught by Rai. The suggestion/motivation to do so would have been to provide convenience of access by users.

For claims 17-20, Wang discloses all the limitations of the subject matter of the the following claims:

- wherein the second communication system comprises a wireless telecommunication system, **as taught by claim 17**, 1002 and 1008 and 1025 in fig. 10, col. 10 lines 19-52, and col. 11 lines 35-40.
- wherein the second communication system comprises a wire line telecommunication system, **as taught by claim 18**, col. 10 lines 19-52, col. 11 lines 35-40.



Art Unit: 2617

- wherein the second communication system comprises a data network, **as taught by claim 19**, (311-315. in fig. 3)
- wherein the second communication system comprises a video distribution system, **as taught by claim 20**, (refer to col. 14 lines 58-65 and display col. 2 lines 1-5).

For claims 27-29, Wang in view of Pester discloses all the limitations of subject matter of these claims, with the exception of the following limitations, which are disclosed by Rai, as follows:

- wherein each subscriber unit is autonomously registered when the subscriber unit first enters the coverage area of a radio access point within the communication system, **as recited by claim 27**, refer to Rai' col. 7 lines 48-61, col. 9 lines 17-39, and col. 15 lines 25-30.
- wherein each subscriber unit maintains registration as the subscriber unit moves from one coverage area into another coverage area, **as recited by claim 28**, refer to col. 9 lines 17-39 and col. 15 lines 25-30.
- wherein each subscriber unit is autonomously deregistered when the subscriber unit leaves the communication system, **as recited by claim 29**, refer to col. 15 lines 25-30.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of, as taught by Rai. This capability can be combined within the distribution point, as taught by Rai. The suggestion/motivation to do so would have been to provide convenience of access by users and tracking users.

5. Claims 22-26 and 52-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang** in view of **Pester and Rai**, further in view of **Doty et al** (US Patent No.6,795,863), hereinafter, **Doty**.

For claims 22-26 and 52-55, **Wan** in view of **Pester and Rai** disclose all the limitations of subject matter of this claims 22-26 and 52-55, including the following limitations:

- “wherein the distribution point (IWF) is further in communication with the internet gateway (Internet access or access to ISP), the distribution point further operative to exchange packets (frames, **Rai’s** col. 8 lines 66-67) with the Internet gateway”, **as recited by claim 22**, refer to **Rai’s** col. 8 lines 7-18 and **Rai’s** col. 8 lines 65-67;
- wherein at least one distribution point comprises an asynchronous transfer mode switch, **as recited by claims 23 and 52**, refer to **Rai’s** col. 11 lines 10-15.
- wherein at least one distribution point comprises an Internet protocol router, **as recited by claims 24 and 53**, **Wang’s**, col. 12 line 67 and **Rai’s** col. 22 lines 17-22 .
- wherein at least one distribution point comprises an Ethernet router, **as recited by claim 25 and 54**, **Wang’s** col. 12 lines 55-60, **Rai’s** col. 11 lines 5-15, and col. 22 lines 45-50.
- wherein at least one distribution point comprises a TDM switch ( **TI’s** ), **as recited by claims 26 and 55**, **Rai,s** col. 10 lines 65 and col. 22 lines 45-50.

**Doty** discloses more specifically the following limitations:

- “wherein the distribution point Internet protocol router, **as recited by claims 24 and 53**, **Doty’s** col. 7 lines 40-45, col. 10 lines 30-35..

Art Unit: 2617

- wherein at least one distribution point comprises an Ethernet router, **as recited by claim 25 and 54**, Doty's col. 10 lines 35 –60..

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of the distribution point (IWF) is further in communication with the internet gateway as taught by Rai. This capability can be combined within the distribution point, as taught by Rai. The suggestion/motivation to do so would have been to provide convenience of access by users and to meet the reception requirements by users.

6. Claims 30, 32, and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang** in view of **Pester**, further in view of **Feuerstein et al** (US Patent No.6,141,565), hereinafter, **Feurestein**.

For claims 30, 32, and 34-35, Wang in view of Pester discloses all the limitations of subject matter, as in claim 1 above, including the following limitations:

- “wherein subscriber unit is a fixed device or non-fixed device”, as recited in claims 34-35, refer to 100 in fig. 1 and 305 in fig. 5 respectively.

Wang in view of Pester does not disclose the following limitations explicitly, which are disclosed by **Feurestein**, as follows:

- “wherein quality error bit rate ---based on the location of the subscriber unit----”, refer to col. 1 line 65-col. 2 line 11.
- “wherein quality error bit rate ---based on the grade of service”, refer to col. 3 lines 1-3.

Art Unit: 2617

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of quality error bit rate ---based on the location of the subscriber unit and grade of service. This capability can be combined within the distribution point, as taught by Feurestein. The suggestion/motivation to do so would have been to provide quality of service as agreed to by subscriber.

7. Claims 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang** in view of **Pester**, further in view of **Marinho et al** (US Patent No.6,738,637), hereinafter, **Marinho**.

For claims 31 and 33, Wang in view of Pester, discloses all the limitations of subject matter, as in claim 1 above, with the exception of the following limitations, which are disclosed by Marinho, as follows:

- “wherein quality error bit rate ---based on the class of service”, refer to abstract.
- “wherein quality error bit rate ---based on the rate of service”, refer to abstract.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of quality error bit rate ---based on the class and rate of service. This capability can be combined within the distribution point, as taught by Marinho. The suggestion/motivation to do so would have been to provide quality of service as agreed to by subscriber.

Art Unit: 2617

8. Claims 36, 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang** in view of Pester, further in view of **Zendle** (US Patent No.6,757,268), hereinafter, **Zendle**.

For claims 36, 37 and 41, Wang in view of Pester, discloses all the limitations of subject matter of these claims, with the exception of the following limitations, which are disclosed by **Zendle**, as follows:

- “wherein bandwidth is dynamically allocates bandwidth when the information packet is forwarded to one of the additional distribution points in communication with the distribution point”, refer to col. 5 lines 10-15, col. 9 lines 14-30, and col. 13 lines 20-25.
- “wherein bandwidth is dynamically allocated when an information packet is exchanged between one of the plurality of subscriber units and one of the plurality of access points”, refer to col. 5 lines 10-15, col. 9 lines 14-30, and col. 13 lines 20-25.
- wherein communication link bandwidth is only consumed when packets containing information are transmitted, thereby only utilizing link bandwidth when information is sent or received, **as recited by claim 41**, (refer to “a sector may utilize the full bandwidth---of a channel---to meet overall customer demand for bandwidth, refer to col. 7 lines 25-30”.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of changing bandwidth dynamically. This capability can be combined within the distribution point, as taught by **Zendle**. The suggestion/motivation to do so would have been to provide convenience of access by users.

9. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang** (US Patent No. 5,898,904) in view of **Pester, III** (US Patent No. 5,475,732), hereinafter, Pester, as above, fuether in view of **Blakeney, II et al** (US Patent No. 5,640,414), hereinafter, Blakney.

For claim 43, Wang discloses all the limitations of the subject matter, as in claim 1, with the exception of the following limitations, disclosed by Pester and Blakeney, as follows:

- a supervisor in communication with each distribution point, the supervisor operative to identify the distribution point with which each subscriber unit is communicating, refer to Blakney's col. 3 lines 55-60, and abstract.,.
- to provide each distribution point with a listing of to which of the at least in one additional distribution point in communication --- the distribution point", (**refer to Pester discloses, "The STPs look at a point code and if it is not for them they just pass it on via a route determined from translations and routing tables", refer to col. 5 lines 35-37).**..

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of "determining any packets that are to be transmitted", and "queuing packets within non selected subscriber units for later transmission, as taught by Tran and Jones. The suggestion/motivation to do so would have been to optimize the resources to facilitate high priority transmission.

***Allowable Subject Matter***

10. Claims 44-46 are allowed.

***REASONS FOR ALLOWANCE***

The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose or teach directly or indirectly the following limitations in combination with other limitations, follows:

As recited by claim 44,

“a supervisor in communication with each distribution point, the supervisor operative to provide each distribution point with a listing of to which of the at least one additional distribution point in communication with the distribution point information packets should be forwarded for each possible destination distribution point, the listing based on maintaining a minimum quality of service in a path to the destination distribution point”.

As recited by claim 45,

“transmitting a sign-on signal from the new distribution point;  
receiving the sign-on signal in at least one distribution point in the network of existing distribution points;

assigning a routing address to the new distribution point; and

providing each distribution point in the network of existing distribution points with an indication as to which additional distribution point in the network of existing distribution points each information packet having a destination address specifying the new distribution point is to be forwarded”.

Art Unit: 2617

As recited by claim 45,  
detecting the absence of signal from a distribution point to be removed  
from the network;  
determining a connectivity between distribution points remaining after  
removing the distribution point detected with the absence of signal; and  
providing each remaining distribution point with an indication as to  
which distribution point in communication with the remaining distribution point each  
information packet having a destination address specifying the remaining distribution  
point is to be forwarded.

***Response to Arguments***

11. Applicant's arguments filed 8/23/2005, some of these being the same as were raised in applicant's response dated: 2/3/05, have been fully considered but they are not persuasive.

Applicant argues that Wang neither teaches nor suggests Applicant's "distribution points".

In response, Examiner states that Pester discloses "STP1, STP2, STP3 and STP4 as Signal Transfer Points (distribution points), refer to fig. 1, col. 4 lines 11-15.

Applicant argues that Wang does not disclose "determination if the information packet destination is to one of the plurality of subscriber units within the coverage area of an access point in communication with the distribution point",



Art Unit: 2617

In response, Examiner states that Pester discloses, “determining that the message was not for it as an STP but rather is for EO4---”, refer to col. 5 lines 10-17.

Applicant argues “Under the Examiner’s construction, the fact that further, distribution points (base stations) can be added does not teach or suggest forwarding packets from the distribution points (base stations) to the access points (high power transmitters)”.

In response, Examiner states that Pester discloses, “investigate possible routings to get to 255 or EO4-----puts that message on the A link to EO4”, refer to col. 5 lines 10-17.

Applicant argues, “ Neither of these passages teach or fairly suggest providing each particular distribution point with a listing of additional distribution points to which packets should be forwarded from the particular distribution point for each possible destination distribution point”.

In response, Examiner states that Pester discloses, “The STPs look at a point code and if it is not for them they just pass it on via a route determined from translations and routing tables”, refer to col. 5 lines 35-37..

**In light of above explanation, arguments by applicant are not persuasive.**

### ***Conclusion***

Art Unit: 2617

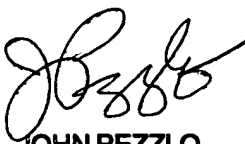
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P. Mehra whose telephone number is 571-272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Inder Pal Mehra 7/29/06*

Inder P Mehra  
Examiner  
Art Unit 2617

  
**JOHN PEZZLO**  
**PRIMARY EXAMINER**